PUK2
PREVALENT AND ASSOCIATED COMPLICATIONS OF ACUTE KIDNEY INJURY AMONG DENGUE PATIENTS
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OBJECTIVES: Dengue fever is a mosquito borne infectious disease that is mainly prevalent in tropical and subtropical zones of the world. One of the potential complications of dengue fever is acute kidney injury (AKI). Current study aims to assess the incidence and risk factors for AKI among dengue patients. METHODS: A retrospective review of medical records of dengue infected patients enrolled from May 2005 to December 2013 was conducted at a tertiary care hospital in Kelantan. RESULTS: Total 124 patient records (male: 63, female: 61) with mean age of 29.57±15.09 were reviewed retrospectively. Out of 124 patients, 104 (83.9%) suffered with classical DF, 19 (15.3%) with dengue hemorrhagic fever (DHF) while only 10.8% with Dengue shock syndrome (DSS). The prevalence of AKI among Dengue patients was found to be 7.2 % (9 patients). On the basis of Acute Kidney Injury Network (AKIN) criteria, 2(22%) had stage 1 AKI while remaining 7 (78%) had stage 2 AKI. For the purpose of analysis of risk factors for AKI, patients were categorized into group A (with AKI) and group II (without AKI). Mann Whitney “U” test was used to compare differences between groups. A higher serum creatinine (112.39 ± 56.87, p=0.001), bilirubin (70.81 ± 48.73, p=0.038), urea (104.50 ± 58.08, p=0.001), WBC (92.25 vs 90.90, p=0.013) and HB (90.91 ± 60.04, p=0.021) levels were observed among AKI dengue patients. Though the duration of hospital stay of group I was more than group II, this difference was statistically insignificant (t=7.73, t= 61.36; p=0.192). CONCLUSIONS: AKI is a least studied and poorly understood complication of dengue fever. Such patients are at verge of developing DHS/DSS resulting in complicated clinical course and increased mortality. A cautious diagnosis and timely management could be the first and foremost step for management of such patients.

PUK5
EPIDEMIOLOGY OF END STAGE RENAL DISEASE PATIENTS ON HEMODIALYSIS FOR HOSPITAL READMISSIONS
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OBJECTIVES: The study aims to determine the different epidemiological factors responsible for the cause of hospital readmissions in chronic hemodialysis (HD) patients. METHODS: Reviewed data of 170 patients with 124 male and 46 female patients receiving maintenance HD twice weekly schedule on a Mon/Thu, Tue/Fri, Wed/Sat with prevalent adult’s HD patients on period from 1st Jan to Dec 31, 2010 or during or until close at death, modality change, deviation from HD schedule not during hospital readmission wash to follow-up. Eligible patients were actively recruited who were on chronic HD fulfilling the inclusion criteria. ICD-9-CM diagnosis codes were used. RESULTS: A total of 170 patients with End-stage renal disease (ESRD) on chronic HD in the study period. The mean age of women with a mean year of patients on hemodialysis of 3.2±6. The prevalence 29.3% and hypertension with diabetes 26% were the leading cause of ESRD and least cause of renal failure was seen with polycystic kidney disease, Glomerulonephritis, Interstitial hypertension with diabetes 26.4% were the leading cause of AKI dengue patients. Though the duration of hospital stay of group I was more than group II, this difference was statistically insignificant (t=7.73, t= 61.36; p=0.192). CONCLUSIONS: AKI is a least studied and poorly understood complication of dengue fever. Such patients are at verge of developing DHS/DSS resulting in complicated clinical course and increased mortality. A cautious diagnosis and timely management could be the first and foremost step for management of such patients.

PUK6
CSA RECEPTOR ANTAGONIST PROTECTS MICE FROM UROPATHOGENIC ESCHERICHIA COLI-INDUCED KIDNEY INFECTION
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OBJECTIVES: To determine if blocking C5aR could effectively protect mice from UPEC induced acute kidney injury. METHODS: An established mouse model of ascending UTI leading to kidney infection was employed. C5aR antagonist (C5aRa, W54011) (250mg/kg) was given before the induction of infection by i.p. injection. Kidney infection was assessed in C5aRa or control reagent treated mice at 6, 24, 72h after infection. RESULTS: Compared to control reagent treated mice, C5aRa treated mice, either from B6 or BALB/c background, exhibited significantly lower rates of kidney infection (B6: 37.5% vs 100% [p=0.01]; BALB/c: 26% vs 87% [p=15]). Reduced kidney tissue damage and gene expression of K1, IL-6 and TNF-α in kidneys tissues. The reduction of kidney infection and tissue damage resulting from C5aR blockade were more profound at 48h and 72h post infection. C5aR blockade led a small reduction of neutrophil infiltration at 48h, but to no apparent extent at 72h. CONCLUSIONS: C5aR blockade effectively protected mice from UPEC-induced kidney infection suggesting that C5aR signal is a critical pathogenic factor in UTIs, thus representing a promising target for treating or preventing human UTIs.

URINARY/KIDNEY DISORDERS – Cost Studies

PUK7
BUDGET IMPACT ANALYSIS OF PERITONEAL DIALEYESIS VERSUS CONVENTIONAL IN-CENTER HEMODIALYSIS IN MALAYSIA
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OBJECTIVES: The increasing prevalence of patients with end-stage renal disease in Malaysia is driving up the costs of dialysis care dramatically. Several studies have projected significant cost savings by increasing the proportion of patients on peritoneal dialysis (PD). This study investigates the five-year health care budget impact of variable distribution of adult patients treated with PD and in-center hemodialysis (ICHD) on government funding in Malaysia. METHODS: An Excel® budget impact model was constructed to assess dialysis associated costs when changing dialysis modalities between PD and ICHD. The model incorporates the current modality distribution and accounts for Malaysian government payments and EPO costs. Epidemiological data, including dialysis prevalence, incidence, mortality, and transplant rate from Malaysian renal registry reports, were used to estimate the dialysis patient population for the next five years. The model presented four scenarios assuming a stable distribution of PD (8%) and ICHD (92%) over five years. Alternative scenarios included the prevalence of PD increased by 2.5%, 5.0%, and 7.5% or decreased 1% yearly over five years. All four scenarios were accompanied with commensurate changes in ICHD. RESULTS: Under the current best available cost information, an increase in the prevalent PD population from 8% in 2014 to 18%, 28%, or 38% in 2018 is predicted to result in five-year cumulative savings for the Malaysian government of RM13.9 million, RM27.9 million, and RM41.96 million, respectively. If the projected PD population were to decrease from 8% in 2014 to 4.0% by 2018, the total expenditure for dialysis treatments would increase by RM5.6 million over the next five years. CONCLUSIONS: Under the best available cost information associated with PD and HD paid by the Malaysian government, increasing the proportion of patients on PD could result in reduction in dialysis associated costs in the future.

PUK8
FINANCIAL IMPLICATIONS TO TAIWAN HEALTH SYSTEM FROM CHANGING THE DIALYSIS MODALITY MIX
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OBJECTIVES: In 2012, 0.3% of Taiwan end-stage renal disease (ESRD) patients accounted for 6.64% of National Health Insurance (NHI) dialysis spending. We investigated the five-year financial impact of changing the distribution of patients undergoing peritoneal dialysis (PD) and in-center hemodialysis (ICHD) on government spending. METHODS: An Excel® based health care budget impact model was constructed to assess dialysis associated costs. The model incorporates Taiwan current modality distribution and accounts for ESRD outpatient and inpatient total health care cost. Epidemiological data of ESRD patients from 2000 to 2011 was acquired from Taiwan National Health Insurance (NHI) Databases for 2008. The baseline scenario assumed a stable distribution of PD (10%) and ICHD (90%) over five years. Four scenarios, including pro-inflammatory cytokine and chemokine production by primary renal tubular epithelial cells and monocytes/macrophages. CONCLUSIONS: These findings demonstrate that administration of forskolin is beneficial for controlling the development of UPEC mediated acute pyelonephritis in mice. The protective effect of forskolin (via cAMP activation) in this experimental acute pyelonephritis can be explained at least in part by limiting excessive inflammatory responses through acting on both renal parenchymal and inflammatory cells.